Violent upheavals took place in the Pacific Islands in 2006—the Chinatown riots in Solomon Islands midyear, then "pro-democracy" riots in Tonga in November, and the Fiji coup mounted by Commodore Frank Bainimarama at year's end. To varying degrees, these events caused political instability and immense damage to property and the economy (notably tourism), and tore the fabric of society. The scenes were reminiscent of the 2000 coups in Suva and Honiara. Recent events provoked a similar response, with regional nations, mainly Australia and New Zealand, sending forces to quell the riots in Honiara and Nuku'alofa, while the Fiji coup attracted condemnation and sanctions. Generic factors contributing to security crises and the regional mechanisms for responding to them were addressed in an earlier review (von Strokirch 2001). National reviews elsewhere in this journal address the specific causes and consequences of the 2006 events. This review focuses on region-wide challenges to sustainable development and the role of Northeast Asian states.

Management of two issues is critical to the survival of most Pacific Island states and their economies: climate change and fisheries. They epitomize globalization in the islands, both in vulnerability to external forces and in the need for a global solution. To survive climate change, the Islands must adapt to effects that are, sadly, inevitable. But adaptation will be in vain unless urgent action is taken to reduce global greenhouse gas (GHG) emissions and stabilize the climate so that greater catastrophes can be avoided. Pacific Islanders are also preoccupied with sustainable use of regional fish stocks, notably the prized tuna. Due to the migratory nature of fish, and of the boats that hunt them, marine conservation requires global cooperation to support an effective regional organization.

In the review period of 2005 and 2006, great attention was devoted to climate change, the related issue of natural hazard management, and fisheries. At global and regional levels, conferences were held to assess progress and move international cooperation forward. Major reports by regional and UN agencies, nongovernmental organizations, and scholars fed global debates. In recognition of the worldwide dimension of these issues, and the two-way interaction between regional and global organizations, this review surveys trends at United Nations forums and the parallel evolution of international law.

Past reviews have looked at the role of established external actors in the Pacific in assisting or hindering regional goals. These actors are the colonial powers, morphed into aid donors: Australia, New Zealand, the United States, and France. This review examines the impact of China, Japan, and Taiwan. This Northeast Asian trio

has become more engaged, as reflected in summits with Pacific Island leaders in 2006. They are competing, with each other and with traditional metropolitan powers, for natural resources and diplomatic influence. Their uses of aid to achieve these objectives, and their records on climate change and fisheries, are analyzed later in this review.

Small island states have long campaigned for international action to reduce GHG emissions and thereby mitigate climate change. So long as only the survival of atoll communities was perceived to be at stake, most of the world's nations persisted with fossil-fuel-intensive growth and its corollary, burgeoning carbon emissions. Pacific Islanders can take heart that in 2006 global attitudes shifted. The balance of opinion among the mass media, the public, and thus politicians appears to be moving from skepticism to acknowledgment of global warming, its anthropogenic causes, and its likely consequences. This realization came about due to visible effects, popularization of the issue, awareness of the economic costs, and confidence in models predicting the timing and scale of climate change.

Significantly, climate change is being felt in the developed countries. Average temperatures are rising and extreme weather events have become more common and destructive. The European heat wave in 2003 killed 35,000 people and resulted in agricultural losses of US$15 billion (Stern 2006, viii). Hurricane Katrina's impact on the US Gulf Coast, notably the inundation of New Orleans, acted as a wake-up call that climate change is increasing the severity of cyclones to a scale that even a superpower has difficulty coping with. Bushfires are taking a greater toll than before. Moreover, the melting glaciers and polar ice sheets, shrinking permafrost, and retreat of mountain snow worldwide demonstrate the inexorable march of global warming.

Individual climate change crusaders have rendered this complex issue accessible to a lay audience. *An Inconvenient Truth,* the documentary film by former US vice president and Democratic presidential candidate Al Gore (2006), received critical acclaim and reached cinemagoers the world over. Gore employed apocalyptic images to get the message across. He did so advisedly as the precautionary principle dictates that it is prudent to plan and act on the basis of the worst-case scenario. Given the sway of skeptics in the media and in the corridors of power, both political and corporate, climate change "alarmists" provide correctives to public debate.

An official UK report, the *Stern Review: The Economics of Climate Change* (2006), lent further gravitas to threat assessments and alerted the corporate world, whose support is critical to reduce emissions. The review assessed that a business-as-usual approach could treble global GHG emissions within a century. The consequences are likened to the combined effects of the two world wars and the Great Depression. Conversely, the cost of deep cuts in emissions is estimated in the vicinity of only 1 percent of gross domestic product by 2050 and would be compatible with continued growth. Stern sees international cooperation as critical to the success of strategies such as carbon

pricing, diffusing low-carbon technology, curbing deforestation, and supporting adaptation. The sooner such policies are applied across the globe, the greater the savings will be, whereas the longer the delay, the higher the cost of adaptation and future mitigation policies (Stern 2006).

In a similar vein, the European Renewable Energy Council (EREC) has called for an "energy revolution." A new approach stems as much from the need to ensure energy security (in view of fossil fuels getting scarcer and more costly) as it does from health and environmental considerations. The council claims it is technically and economically feasible to cut global emissions 50 percent by 2050, by shifting policy support to known renewable energy solutions coupled with far more efficient use of energy (EREC 2007, 4).

Climate change also affects the other traditional "high politics" issue: security. "The wider security implications of climate change have been largely ignored and seriously underestimated in public policy, academia and the media" (Dupont and Pearman 2006, viii). Threats to security include scarcity of food, water, and energy, unregulated population movements, an increase in natural disasters, short-term disease spikes, and a deteriorating capacity to meet basic needs. The cumulative impact is likely to result in more internal conflict, failed states, and, albeit less likely, interstate war. Climate change thus must be factored into national, regional, and UN planning on security (Dupont and Pearman 2006, ix). An adjustment in threat perceptions is warranted as climate change poses a far greater challenge to security than terrorism.

The latest report by the UN Intergovernmental Panel on Climate Change (IPCC) heightened public concern. It represents even greater scientific certainty that global warming is caused by human activity, mainly from carbon dioxide emissions but also land clearing. They conclude that, "warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and rising global mean sea level." The total rise in temperature since 1850 is around 0.76 degrees Celsius. The warming trend of the past 50 years is almost double that for the previous century, while 11 of the last 12 years rank among the 12 hottest years recorded (IPCC 2007, 4).

Of particular interest to small island states is the updated IPCC data on oceans and weather patterns. The ocean has been absorbing 80 percent of the additional heat thereby causing the water to expand and, coupled with ice cap and glacier melt, the sea level to rise. The twentieth-century rise in sea level is about 0.17 meters, but in the last decade it has increased to 3.1 millimeters per annum, or nearly double the average for the previous forty years. "At continental, regional and ocean basin scales, numerous long-term changes in climate have been observed. These include changes in Arctic temperatures and in ice, widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather including droughts, heavy precipitation, heat waves and intensity of tropical cyclones" (IPCC 2007, 5).

Future trends promise to get sig-

nificantly worse as emissions increase, especially in developing countries, before global efforts can curtail them. Conservative models borne out by data in recent years suggest that the temperature will increase at least 0.2 degrees Celsius a decade over the next twenty years. Tropical cyclones will become more intense and probably more frequent. In the long term, "anthropogenic warming and sea level rise would continue for centuries due to the timescales associated with climate processes and feedbacks, even if greenhouse gas concentrations were to be stabilized" (IPCC 2007, 12).

In short, trends have firmed as to the effects of climate change, not just on the environment, but also on the economy and security. Socioeconomic impacts are being felt throughout the world and are set to intensify within this generation. There is global cooperation, yet delays and divisions persist over strategies. Concluded in 1997, the Kyoto Protocol entered into force in 2005. It comprises 165 members, of which the developed countries are committed to reducing emissions by the first phase of 2008–2012, by an average 5.2 percent compared to 1990 levels. The European Union agreed to a higher target for itself: an 8 percent cut. Targets for further cuts in the second phase from 2013–2017 must be resolved by 2009 (EREC 2007, 12). In early 2007, the European Union set itself a target of 20 percent below 1990 levels, by the year 2020.

By contrast, the United States and Australia have not committed to any reductions. Working outside Kyoto (since they withdrew in 2001 and 2002, respectively), they have expanded their clean energy initiative to include Japan, South Korea, China, and India. Instead of committing to cuts in emissions (Japan is the only one to do so in Kyoto), the Asia-Pacific Six (AP6) focus on development and diffusion of cleaner energy technologies. This partnership unites three of the world's biggest absolute GHG emitters —the United States, China, and India.

While the international community equivocates about the best way to tackle climate change and the urgency of the time frame, small islands the world over treat it as their top priority. This was evident in the 2005 Mauritius Strategy for the Sustainable Development of Small Island Developing States, which revised the 1994 Barbados Programme of Action. Climate change and sea-level rise was the first major theme addressed in the new strategy and highlighted as a "key area" for action (MS 2005, 3, 21).

Climate change will undermine the development of all countries, but for many small island developing states, it threatens their very existence as sovereign states. That is not to say the whole community will perish, as the slow onset of sea-level rise will allow time for Islanders to migrate. The first wave of climate change migration in the Pacific will see the inhabitants of Tokelau and Tuvalu go to New Zealand, while Marshall Islanders will go to the United States under the terms of the Compact of Free Association. Kiribati has yet to find a home for its future refugees (Dupont and Pearman 2006, 59).

Sea-level rise and weather patterns are a focus for Pacific Island countries (PICS). Over fifteen years the South Pacific Sea Level and Climate Monitoring Project has compiled a com-

prehensive archive of data. In addition, the Global Climate Observation System has improved data collection via the Pacific Islands Action Plan. It undertook in-country workshops, renovated upper-air network stations, instigated subregional climate bulletins, rescued paper records, improved interisland communications, and upgraded tide gauge stations (UNFCCC 2007, 10).

In 2005 the Pacific Islands Forum endorsed the Pacific Islands Framework for Action on Climate Change 2006–2015 (PIFACC 2005), building on a previous five-year plan. In 2006, leaders identified the framework as a priority for action under the Pacific Plan. The Secretariat of the Pacific Regional Environmental Programme was charged with translating the framework into progress on the ground (PIF 2006, 3). The principles underpinning the goal of resilience to climate change are "implementing adaptation measures; [good] governance and decision making; improving understanding of climate change; education, training and awareness; contributing to global greenhouse gas reduction; partnerships and cooperation" (PIFACC 2005, 3).

In the Mauritius Strategy, small island developing states urged the international community to ratify the Kyoto Protocol and make deeper cuts to emissions. With regard to clean energy, these island states saw it as incumbent on them, albeit with international support, to set an example (MS 2005, 4, 21), and this was reiterated in the Pacific action plan. Rising fuel prices have added momentum to the quest for renewable energy. This led Forum leaders to call for an urgent meeting of regional energy ministers and for the South Pacific Applied Geoscience Commission (SOPAC) to implement the new Pacific Regional Energy Policy (PIF 2006, Annex A).

Pacific Islanders stress that their "contributions to the total global emission of greenhouse gases are insignificant" (PIFACC 2005, 7). Their absolute emissions account for less than 1 percent of global GHG emissions. Average Pacific Island per capita emissions are also low, at 0.96 tonnes of carbon dioxide a year, or just 25 percent of the global average (UNFCCC 2007, 8). This is due in part to differences in levels of development, with many Pacific Islanders making a living via traditional subsistence methods. Also, PICs do not burn fossil fuels to heat homes as billions of people do in colder climes.

Yet the affluent minority in the PICs have a relatively high carbon "footprint," due to consuming imported foods, driving cars, using air-conditioning, and taking international flights. Moreover, most manufactured goods are made elsewhere, with emissions thus attributed to another country's tally. It is also a paradox for PICs that a main source of income is tourism, which relies on foreigners taking fossil-fuel-intensive, long-haul flights. In pursuit of development and foreign exchange, PICs not only want to maintain the tourism industry, but to expand it.

Most PICs, especially the urban capitals, import a large proportion of food. This adds to GHG emissions because of the processing, refrigeration, and "food-miles" involved in the long-haul transport. As an energy-efficiency measure, but also to save

costs, improve the trade balance, and increase self-reliance, PICs could try to increase domestic food supply. While options are limited on atolls, on volcanic islands there is scope for agricultural producers to make a greater contribution, including exports to neighboring PICs. Sustainable forestry in the PICs would also help to preserve the global carbon sink.

Notwithstanding the value of sustainable energy use, the priority in Pacific Island responses to climate change is not curbing their own emissions, but adapting to sea-level rise and extreme weather events. While Islanders have always had to contend with natural disasters, these are exacerbated by global warming. Approaches to climate change adaptation and disaster management have been converging in policy circles and are treated together here under the rubric of "risk management of natural hazards" (World Bank 2006, v). This represents an overarching approach to prevent or mitigate disasters.

By definition, disasters overwhelm local capacity to respond. Nothing focuses the mind like a natural disaster. A nation and its development partners can harness enormous energy and goodwill in response and recovery operations. Unfortunately, it is a quirk of human nature that often people will not institute optimal risk management until after they have experienced a natural disaster. However, the Indian Ocean tsunami on 26 December 2004, which killed 290,000 people, was on such a vast scale that it ensured the issue would receive more attention worldwide.

In 2005, disaster risk management was a key issue in meetings, resulting in frameworks and action plans at the global, regional, donor and national levels. Coincidentally, two meetings attended by Pacific Islanders were held within a month of the tsunami. In Mauritius, small island developing states gave disasters prominence as the second theme after climate change. The Second World Conference on Disaster Reduction, held in late January, produced the Hyogo Framework for Action 2005–2015 (UNISDR 2005). This revised the previous decade's Yokohama Strategy. The 12th Pacific Regional Disaster Management meeting, held in Madang in June, produced the Pacific Framework for the coming decade (SOPAC 2005). It was structured along the same lines as that of Hyogo. Forum leaders adopted the Pacific Framework in October (PIF 2005).

The cost of disasters in the Pacific Islands has already been immense and warrants greater risk management. Statistics illustrate the hazards to people, property, and the economy. Since 1950, disasters have affected more than 3.4 million people and caused 1,747 fatalities in the region (figures exclude Papua New Guinea, as it would skew the regional outlook). Cyclones account for 76 percent of events, although droughts affect more people and tsunamis result in a higher death toll. The average cost of damages per cyclone was US$75.7 million, and in the 1990s disasters cost the region US$2.8 billion (figures at 2004 value). Disasters incur ongoing losses to gross domestic product in the order of 2 to 7 percent. Melanesia experiences the most disasters and fatalities, and Micronesia the least. Those with highly developed infrastructure, such

as Guam, suffer higher financial costs (World Bank 2006, 1–2).

Disasters are becoming more intense in the Pacific, featuring stronger wind speeds and higher waves associated with cyclones. Ten of the most extreme fifteen events since 1950 occurred in the last fifteen years. In 2005, the Cook Islands were hit by four cyclones at maximum Category 5 strength in the space of a month (ADB 2005). Disasters affect more people, in part due to urban population density and substandard housing in coastal zones. However, fatalities have decreased, probably due to early warning systems (World Bank 2006, 4–5). Unfortunately, while systems can give advance notice of Pacific-wide tsunamis, localized tsunamis allow no time for such warnings.

The increase in disasters is linked to global warming. In the Pacific Ocean, island air and sea surface temperatures have increased more than global rates. Trends are set to worsen in line with IPCC predictions. The effects of cyclones are well known. Other extreme events include droughts in the Southern Pacific and floods in the Central Equatorial Pacific. These effects are amplified by the El Niño phenomenon, which, in worst-case scenarios, is predicted to become a permanent feature. Flooding increases the incidence of vector (eg, mosquito) and waterborne diseases, which can cause epidemics. The intensifying threat of cyclones will also deter tourists and thus damage local economies (Tyndall Centre 2005, 26).

Climate change also imposes slow-onset effects that are potentially more damaging to health, the economy, and the environment. With regard to water resources, sea-level rise intrudes on freshwater sources, while reduced rainfall causes problems with supply. Fisheries will be affected by rising temperatures killing sea grasses and coral on which fish depend, while an increase in toxic algae will contaminate more fish than usual. Altered temperatures change the migration patterns of fish, leading to less catch for some states. This is already occurring because of the El Niño effect. Tourism will be affected adversely by loss of beaches due to sea-level rise, loss of attraction due to dying coral reefs, and severe damage to the environment and infrastructure due to cyclones. Settlements in coastal zones will be inundated by encroaching seas, resulting in costly relocation—or, for atoll communities, migration elsewhere. All of these translate into higher insurance payouts and rising premiums (Tyndall Centre 2005, 24).

Islanders cannot prevent new or intensified hazards caused by climate change. However, some choices made by Islanders, individually or collectively, do increase vulnerability. Building homes, hotels, and vital public infrastructure too close to the shore creates unnecessary risks. Allowing such developments to erode the shoreline's natural protection exacerbates the risks. Inappropriate architecture can increase susceptibility to the vagaries of climate. Urbanization can undermine people's connections with traditions, such as the construction of housing using lightweight, local materials, which in the event of a disaster could limit injury and be readily repaired. Loss of knowledge can be fatal in the case of tsunamis if, as happened with the Indian Ocean tsunami,

people fail to move to higher ground when the sea withdraws.

Disasters are not always inevitable; it is the natural hazard coupled with vulnerability that causes an extreme event to assume the proportions of a disaster (Tyndall Centre 2005, 31). If the risks due to hazards are identified and policies developed to reduce vulnerability, then a disaster can be avoided or at least mitigated. Yet many nations and communities allocate insufficient planning and resources to risk management in advance, even though this could reduce loss of life and property and would be more cost-effective than responding after a disaster.

Many constraints on risk management are attitudinal. Humans find it inherently difficult to plan for an extreme event when they do not know its scale, or when, where, and whom it will strike. We think a particular cyclone or tsunami might miss our country, our island, our house, or fall outside our lifetime or our period in government. Such uncertainty feeds a tendency to gamble with the risk and see what eventuates. Moreover, there is an assumption—vindicated to some extent—that insurance companies, communities, the national government, or aid donors will cover the costs of response and recovery after a disaster. Indeed, until recently, donors did focus on responding to disasters rather than reducing the vulnerability to them. Typically, emergency actions by national governments and donors are more visible, and thus more rewarding politically, than complex long-term measures (Tyndall Centre 2005, 10; World Bank 2006, 11–12).

There are ways to promote less risky mind-sets and behavior. One is to disseminate information that identifies vulnerability to hazards so that potential victims can understand the risks and the means to alleviate them. Another method is to encourage "no regrets" measures that are beneficial to the community and the environment even in the absence of climate change. "No regrets" measures can include installing tanks to increase the water supply, planting mangroves to protect the shoreline, and planting drought-resistant crops. Government regulations and risk-management conditions on insurance policies can induce compliance with land-use practices and building standards that reduce vulnerability. Finally, "climate proofing" can feature prominently in aid donor programs.

One successful stimulus is financial incentive. The World Bank documented the financial benefits of "climate proofing" in the Pacific Islands and the Caribbean. Their conclusion was that the cost of early preventive action, preferably during construction, is invariably modest compared to the replacement value of infrastructure, particularly key public assets (World Bank 2006, 9). Effective risk management can also reduce the social impacts of stress, deprivation, and dislocation in the aftermath of a disaster.

Risk management of natural hazards is now prominent on the agenda of aid donors, regional organizations, and Pacific Island governments. The generic framework for natural hazard management was devised at the global level over a decade ago, revised at Hyogo in 2005, and transposed into a framework for the Pacific Islands.

The campaign for better risk management in the Pacific has logically begun with an extensive process of research and consultation to identify vulnerability to natural hazards and ascertain solutions for specific communities. The United Nations, World Bank, and Asian Development Bank have been undertaking research, pilot studies, and policy recommendations for several years.

The Federated States of Micronesia strategic plan of 2003 focused on climate proofing three sectors: infrastructure, health (eg, malaria, dengue fever, and fish poisoning), and fisheries. In the same year the Cook Islands began to mainstream risk management of natural hazards into the national development strategy (ADB 2005). As part of their National Adaptation Programmes of Action, Sāmoa and Kiribati have engaged in community consultation and "hazard vulnerability mapping" to identify priorities for action. Kiribati is implementing the second phase of its National Adaptation Programme of Action from 2006 to 2009 to design cost-effective adaptation measures. At a sectoral level, Fiji is adapting the tourism sector to climate change. At a cost of US$72.4 million, the United Nations is administering a Pacific Islands Adaptation to Climate Change Project that involves ten PICs (UNFCCC 2007, 21–22, 33).

It will take time for lessons learned in pilot studies to be emulated in national policy and community actions throughout the Pacific Islands. Nevertheless, all global, regional, and donor organizations now agree on the need for a comprehensive, whole-government approach to risk management of natural hazards and for interaction with the community every step of the way. The Forum's plan is indicative of this emphasis on "the integration of disaster risk reduction and disaster management into national sustainable development planning and decision-making processes at all levels; and strengthening an effective partnership between all stakeholders" (SOPAC 2005, 2).

In the Pacific Plan, "development and implementation of policies and plans for the mitigation and management of natural disasters" are marked as a regional priority for "immediate implementation" from 2006 to 2008 (PIFS 2005). Specific strategies for PICs to pursue are: "public awareness, capacity building and improving governance, risk and vulnerability assessments, and, should a genuine need arise, consideration of measures to address population dislocation" (PIFS 2005, Attachment A). The mainstreaming of risk management of natural hazards into national planning is a complex, long-term challenge that has been afforded priority in regional rhetoric and planning.

Apart from increasing natural hazards, climate change will adversely affect fish stocks, whereby rising temperatures and variations in salinity damage the marine ecosystem. In addition to the anthropogenic contribution to climate change, humans are wreaking massive damage on marine life by overfishing. Developing coastal nations such as PICs rely on fish as a key source of protein, and on fish exports and fishing access fees as a major source of income. The Pacific Ocean's fish stocks are relatively healthy, but the parlous state of the world's fisheries indicates what the

future holds unless fisheries management dramatically improves.

In 2005, the UN Food and Agriculture Organization (FAO) concluded that 52 percent of global fish stocks were fully exploited and 25 percent were overexploited, depleted, or recovering. The remaining 23 percent of fish stocks, assessed as under exploited or moderately exploited, and found mostly in the last frontier of the Pacific Ocean, are under mounting pressure (FAO cited in GI 2007, 16). There has been a parallel decline in nontarget species and indeed damage to ecosystems due to fishing practices.

The most severe pressure on marine life is overfishing. Fish are taken in greater numbers than they reproduce. Statistics tell the story. World fish landings were about 20 million metric tonnes in 1950 but quadrupled to approximately 80 million tonnes in 1990, and remained at that level in 2002. This trend is partly due to growth in demand, but it also stems from a massive increase in capacity—that is, the sheer number and size of fishing vessels, with some 24,000 boats in excess of 100 tonnes hunting the fish since the 1990s. Efficiency has been enhanced by technology with global positioning systems, underwater imagery, and aerial or satellite observation used to locate fish. Increased capacity and efficiency coupled with a plateau in the amount of fish landed suggests a decline in global fish stocks (GI 2007, 11). Over the past decade, many regional fisheries have collapsed due to overfishing.

There is colossal waste in the contemporary fishing industry, with grievous environmental consequences. According to 2005 FAO figures, 8 million tonnes per annum, or 10 percent of world catch, is discarded (GI 2007, 12). The bycatch includes whales, dolphins, and endangered albatross and turtles. Another global concern is "ghost fishing" whereby hundreds of thousands of tonnes of lost or discarded nondegradable fishing nets wreak death on all species in their path (UNSG 2006, 12).

The real figures for global catch, and hence maximum sustainable yield, cannot be determined due to the prevalence of illegal, unreported, and unregulated (IUU) fishing. Unlicensed fishermen are not the only culprits. There are also registered vessels with legal access exceeding their quota, fishing outside the designated zone or season, using prohibited fishing gear, not reporting their catch, and targeting species they do not have license to catch. One wasteful and inhumane practice, predominantly by Asian pirate fishers, is that of de-finning sharks and tossing the often live bodies back into the ocean.

The most insidious legal practice is deep-sea bottom trawling. UN Secretary-General Kofi Annan highlighted this problem. Bottom trawlers operate at depths down to 2,000 meters with nets up to 55 meters across and 12 meters high. These traverse the seabed on giant rollers while trawl doors, weighing up to 6 tonnes, also scrape along the bottom (UNSG 2006, 8). The effect is akin to that of a weapon of mass destruction, demolishing ancient coral reefs, giant sponge communities, and sea-grass beds. The benthic environment accounts for 98 percent of marine species. Notwithstanding environmental concerns, bottom trawling is unsustainable because deep-sea fish

are characterized by slow growth and low fecundity. The fish are rapidly depleted to commercial extinction, even within a single season. Whereas these fish species take decades to recover, coral recovery takes centuries (UNSG 2006, 13, 15).

In the light of these alarming trends, fisheries occupy a permanent spot on the agenda of the United Nations, its agencies, and many nongovernmental and regional organizations. There is also a complex array of international law and agreements on fisheries. The 1982 UN Law of the Sea established the Exclusive Economic Zones so critical for PICs to obtain fishing access fees. Initiatives since then include the FAO Code of Conduct on Responsible Fisheries in 1995; the International Plan of Action on the Management of Fishing Capacity in 1999; the International Plan of Action to Prevent, Deter and Eliminate IUU Fishing in 2001; and the FAO High Seas Fishing Compliance Agreement of 2002. Of great significance was the 1995 UN Fish Stocks Agreement (entered into force in 2001) to manage straddling stocks and highly migratory fish such as tuna. In addition, Regional Fisheries Management Organizations (RFMOs) now encompass most of the ocean, though gaps remain on the high seas.

Global agencies, agreements, and RFMOs have documented pressures on fish stocks and proposed strategies to render fisheries sustainable. Strategies to prevent overfishing have been tried to varying extents, by states and RFMOs. These methods include placing limits on the following: total allowable catch, national quotas, capacity (number and size of boats), length of the season, zones where fish can be caught, and the range of species. Modified fishing gear, such as larger-size mesh in nets, can also minimize juvenile catch and bycatch. Turtle-excluding devices are an example of a technology used to reduce casualties of a vulnerable species. Devices exist to deter seabirds. Bans on floating objects to attract shoals can slow down the catch rate. Marine Protected Areas, the aquatic version of national parks, can also conserve representative ecosystems and provide a haven for migratory fish.

Many measures can combat IUU fishing. These include upgrading surveillance (eg, universal application of vessel monitoring systems), snap inspections, bans on transshipment of fish at sea (to stop "fish laundering"), blacklisting pirates, and refusing them access to ports or markets. All these methods can be effective, but often management strategies are couched in principles and guidelines that are not enforced. Kofi Annan noted that RFMO management policies appear comprehensive but concluded: "it is difficult to assess . . . the extent to which these measures are being effectively implemented" (UNSG 2006, 37). In other words, awareness of the threats to world fisheries and knowledge of the solutions have not translated into effective action, especially on the high seas where a barely qualified anarchy presides.

There are several proposals to improve on the unsatisfactory status quo. One recommendation of the UN secretary-general is to modernize Regional Fisheries Management Organizations to give them more teeth to actually implement strategies. RFMOs are to be established for species or

ocean areas not yet covered and thus remove loopholes in the global regime, including an initiative by Australia and New Zealand in the Southern Pacific. Significantly, the first global RFMO gathering took place in Japan in January 2007 in an attempt to coordinate the disparate regions. A review of the UN Fish Stocks Agreement, held in May 2006, called for states to "adopt and fully implement conservation and management measures for . . . fish stocks." It urged cooperation between fishing states and coastal states to harmonize measures between exclusive economic zones and the high seas. An urgent reduction was sought in the "capacity of the world's fishing fleets commensurate with the sustainability of fish stocks." Furthermore, it recommended that all subsidies contributing to overcapacity be eliminated and IUU fishing controls strengthened. Accurate, timely fisheries data should be provided to authorities so sustainable catch levels can be determined. Finally, the review reiterated the need to reform RFMOs and to render their allocation of fishing access rights more transparent (UNRCFSA 2006). Similar calls for "immediate action" were voiced in a consensus resolution for "sustainable fisheries" passed by the UN General Assembly in December 2006 (UNGA 2006). It is incumbent on states and RFMOs to heed these directives. Unfortunately they are not legally binding.

A clear-cut binding agreement has been sought at the UN General Assembly for a ban on deep-sea bottom trawling. Momentum has been building for a global moratorium. The Pacific Islands Forum is a leading advocate and issued a declaration to this effect (PIF 2006, Annex B). Yet the final UNGA resolution (2006) fell short. It merely urged members to protect deep-sea ecosystems and prohibit trawling where vulnerable species occur. High seas not managed by RFMOs were left to the discretion of fishing states to regulate (DSCC 2006). Failing global action, Pacific leaders are considering a regional ban. The campaign was easy for PICs to agree on, given that no commercial deep-sea bottom trawling takes place in the Western Tropical Pacific region, as it is considered unviable there (SPC 2005).

The Pacific Islands face essentially the same challenges in fisheries management as the rest of the international community. PICs mostly issue rights to distant-water fishing nations rather than undertaking industrial-scale fishing themselves. Vessels belong to powerful nations, including key aid donors. This, coupled with meager PIC resources for surveillance of vast exclusive economic zones, renders management of fish stocks difficult. Effective conservation of regional fisheries has become critical, as foreign fleets, both legal and illegal, have converged on the Pacific since their own fishing grounds were depleted.

Regionalism is not new to Pacific fisheries. The Forum Fisheries Agency has been in operation for nearly three decades. There are long-standing subregional arrangements, and a collective deal has been made with the United States over access rights and fees. The Parties to the Nauru Agreement are developing a new scheme to allocate fishing rights in the form of vessel days. The biggest and most complex initiative was negotiation of the Western and Central Pacific Fisher-

ies Convention between Pacific coastal states and fishing nations, and the Western and Central Pacific Fisheries Commission (WCPFC) to administer the treaty (see von Strokirch 2001, 2003). The convention was adopted in 2000 and entered into force in June 2004. The first WCPFC meeting was held in December 2004, ten years after negotiations for the Regional Fisheries Management Organization began.

The importance of an RFMO to conserve fish stocks in the Western and Central Pacific Ocean (WCPO) cannot be overstated. The WCPO contributes 60 percent of canned tuna for the world market. For Pacific Islands, the income from the tuna catch in 2001 was equivalent to 11 percent of their collective gross domestic product (GAP 2004, 5). The catch increased with the influx of foreign fleets, but has settled at two million tonnes since 1998—apart from a record catch in 2004, when the WCPO accounted for 78 percent of the total Pacific Ocean tuna catch and 51 percent of the world catch of the four main targeted species (GAP 2006). Since 1999, stakeholders in the WCPO fisheries have been urged repeatedly by their independent scientific advisers to limit fishing. The United Nations has issued similar calls to RFMOs. Instead, in the Pacific, vessels multiplied from 927 in 1999 to 1,233 in 2002 (GAP 2004, 13), while actual capacity undoubtedly increased even more due to larger boats with advanced technology.

Another concern is data on tuna stocks provided by the Standing Committee on Tuna and Billfish, renamed the Scientific Committee (SC) of the Western and Central Pacific Fisheries Commission in 2005. In 1999 they issued warnings of a substantial decline in biomass and possible overfishing for bigeye tuna. From 2001 on, recommendations were made against any increase in the catch for bigeye and yellowfin tuna. These two species represent a small share of the catch but are of high monetary value as sashimi. The assessment worsened to "overfishing" of bigeye and yellowfin in 2003 and 2004, respectively. "Urgent management action" was required to reduce catch of the overfished species to sustainable levels. The predominant skipjack tuna is not yet overfished, but fishing for skipjack inevitably affects overfished species (SC cited in GAP 2006). From the late 1990s until 2005, despite warnings of imminent, and actual, overfishing, there was no freeze, much less a reduction, in the catch.

Beyond the world's insatiable appetite for fish, the failure to enact timely conservation measures in the Western and Central Pacific Ocean was due to the absence of a Regional Fisheries Management Organization. The first WCPFC meeting was held in December 2004. This passed antipiracy measures under which members only authorize legitimate vessels, record their details, and ensure they are marked for identification. The following year, the fisheries commission set up its headquarters in Pohnpei, recruited staff, and sorted out finances. In December 2005, the fisheries commission acted on the dire warnings concerning bigeye and yellowfin stocks. It adopted Conservation and Management Measures whereby "the total level of fishing effort for bigeye and yellowfin tuna in the Convention Area shall not be increased." Members were to ensure that, from

2006, fishing of these two species did not exceed 2004 levels (WCPFC 2005). This was an encouraging first step. Yet the cap fell short of sustainability, as 2004 saw a record catch with purse seiners taking 15 percent more than the previous three-year average (Willock and Cartwright 2006, 15). Without a reduction, the WCPFC measure perpetuates a trend of overfishing.

The third WCPFC meeting in December 2006 passed a panoply of binding measures to counteract Illegal, Unreported, and Unregulated (IUU) fishing. These include a Vessel Monitoring System to be activated by 1 January 2008 in a designated area, with coverage of the remaining area to be activated at a later date. It will apply to all vessels that fish on the high seas, but smaller vessels have until 2009 to comply. A Regional Observer Programme will enable independent data collection and monitoring of compliance. Moreover, procedures were established for boarding and inspection of vessels suspected of contravening the WCPFC rules. A formal list of known pirate-fishing vessels was also instigated. All of the above are to deter or apprehend vessels engaged in IUU fishing (WCPFC 2006).

The measures against IUU fishing will reduce pressure on tuna and, incidentally, the bycatch of nontarget species. Yet there has been no reduction in the total allowable catch for the Western and Central Pacific Ocean, even though current rates are unsustainable. In 2005 the fisheries commission did adopt a resolution to reduce "overcapacity" resulting from the increase in fishing vessels since 1999. This resolution is nonbinding and merely the latest in a series since 1999 that have been ignored by many states and other "entities" (WCPFC 2005). The principal means of reducing the catch, or preventing increases, is via a precise allocation of national fishing quotas. To date the commission has not attempted this method. In other RFMOs the issue of allocation is fraught and rarely resolved satisfactorily. The consequence is that too many boats chase too many fish until a reduction in catch is achieved by default because fish stocks are depleted.

In other RFMOs there has been a common tendency to inflate the catch level, against scientific advice, so as to maintain allocations for existing members, enable new members to join, or both. Alternatively, if members see their historic allocation cut, new members feel they are not getting a fair share, or aspiring nonmembers are excluded, more often than not these states will ignore the allocation regime and determine quotas unilaterally. The prevailing attitude among states is that, where allocations are considered inadequate, they fight for bigger quotas. All these approaches result in unsustainable fishing practices (Willock and Cartwright 2006, 13).

The outlook is mixed for a WCPFC allocation regime. Complicating factors are that the fisheries are multispecies, multigear, span high seas and exclusive economic zones, and feature tuna, whose patterns of recruitment and migration vary over time and space. Decisions on allocations, unlike the three-quarters majority needed for other measures, require consensus and can be held hostage by just one state. The ranks of potential spoilers are large. Distant-water fishing nations

are notorious for resisting cuts. Pacific Islands are also loath to lose revenue from access fees and risk an associated diminution in aid, which is often linked to fishing access. In the short term, PICs thus have a vested interest in maintaining the overall catch level. There are signs in WCPFC decisions that, as developing coastal states, PICs expect an exemption from reductions to domestic catch.

On the positive side, all the PICs and most of the key fishing states are full members. (The US failure to ratify the convention is a notable exception.) They have also made good progress on measures essential to supporting an allocation regime. The issue of allocation is high on the WCPFC agenda and New Zealand will table options for the 2007 meeting. It would be easier to arrive at a consensus now, when stocks of two key species are still healthy, than wait until stocks are overfished and drastic cuts to catch are required (Willock and Cartwright 2006, 19).

Pacific Islanders are proud custodians of the ocean. The PICs took a stand on driftnet fishing and led the world in banning it. They have consistently opposed nuclear activities that threaten the ocean. The United Nations has highlighted the PIF Regional Ocean Policy as representing best practice principles for guiding stewardship of the sea. The Forum Fisheries Agency has long been a hive of research activity and innovation in fisheries management. In 2005, PICs reaffirmed the importance of fisheries management by committing to a 50 percent increase in their financial contributions to the agency. In the same year, PICs highlighted sustainable fisheries as an immediate priority in the Pacific Plan. Individual PICs, notably Palau, have been proactive with national marine conservation measures and diplomacy. All these conservation efforts are worthwhile. However, to a large extent they will be canceled out unless PICs can be part of the solution rather than part of the problem of overfishing. They, like the big fishing nations, will have to accept short-term sacrifices to reap long-term rewards for their economies and the environment.

PICs are central players in WCPO fisheries as states that issue access rights, earn fees, manage domestic fisheries, and are in the frontline for monitoring compliance. The PICs have WCPFC voting rights. They also belong to other organizations with a voice in this domain, such as the Parties to the Nauru Agreement, the Pacific Community, the Pacific Islands Forum and its Forum Fisheries Agency, and various UN forums and agencies. Collectively, PICs could influence the size of the catch, notably advocacy for a sustainable yield. Otherwise, they will lose a major source of income if fish stocks become commercially unviable. An Australian Fisheries minister summed up the challenge: "The Tuna Commission is a real chance to properly manage the last great fishery in the world. The fishery is OK now, but if we don't do anything, in 20 years it will be devastated like all the others" (*PM,* July 2005).

The challenge for WCPO fisheries has been capacity migration from elsewhere. Whether it be for fish, minerals, or forestry, as distant nations overexploited their own resources, they turned their sights on the Pacific. First came the Europeans, then Australia and the United States, and now

the East Asians want a piece of the action. Due to its inter-war and World War Two presence in Micronesia, Japan has had a longstanding involvement in the region. Notwithstanding Chinese settlement, the governments of China and Taiwan are more recent players. Access to the rich Pacific fishing grounds is an objective common to all three Asian governments. They are also keen to garner diplomatic support for their global agendas in forums where the PICs enjoy a vote. This Northeast Asian competition for influence produced a flurry of summits in 2006, accompanied by dollops of new aid.

The year's oriental diplomacy kicked off with China's debut summit in April. It was held in Fiji with leaders of the PICs that recognize the People's Republic of China: Papua New Guinea, Sāmoa, Tonga, Cook Islands, Fiji, Vanuatu, and the Federated States of Micronesia. The main outcome is the China–Pacific Island Countries Economic Development and Cooperation Guiding Framework to facilitate trade and investment. A new three-year aid package amounts to over US$300 million. Highlights include a fund to assist Chinese investment in the Pacific, free antimalarial medicines, and training for 2,000 government officials. Countries with diplomatic ties to the People's Republic of China are rewarded with zero tariff treatment to the "majority" of exports, cancellation of debts maturing in 2005, and, for those not already enjoying it, approval as tourist destinations for China (Wen 2006).

The summit signified a cranking up of Chinese economic engagement, which was already substantial. Total trade between China and the fourteen developing Forum Island Countries grew from US$288 million in 2002 to US$850 million in 2005. Reciprocal trade was predicted to exceed US$1 billion by the end of 2006, with the balance continuing to favor China. The nations accounting for the bulk of trade are Papua New Guinea, Fiji, and Solomon Islands. Chinese investment in the Pacific Islands amounted to US$113 million in 2004 and was expected to reach US$176.3 million in 2006. More tourists from China are arriving, with 35,000 in 2004 (most went to Fiji) and 46,000 expected in 2006 (Somare 2006).

China has cultivated Pacific microstates to further its diplomatic ambitions. The key goal is to thwart Taiwan's quest for recognition as a sovereign state. In 2006 China had the support of seven PICs and Taiwan six, but this tally fluctuates as PICs play the two Chinas off against each other. In 2004, Kiribati switched sides to Taiwan, as did Vanuatu. However, Vanuatu Prime Minister Serge Vohor miscalculated in acting without cabinet support and lost office. Vanuatu then renewed ties with China. Up to mid-2002, Nauru favored Taiwan, but then changed to China, only to revert to Taiwan in 2005. The prize from Taiwan was a new plane to relaunch Air Nauru. In 2005, China won a spat in the South Pacific Tourism Organization, which saw Taiwan expelled (*IB*, 16 March 2006). China also has an eye on its historic rival Japan. The Chinese summit was partly motivated by catch-up with the Japanese, who have been hosting such events since 1997.

The Fourth Japan–Pacific Islands Forum Summit Meeting (PALM) was held in May 2006 in Okinawa. Unlike

summits held by the two Chinas, leaders of all fourteen Forum Island Countries were in attendance. The leaders endorsed the "Okinawa Partnership." The three-year aid package amounts to US$630 million, of which a major portion will be grants. The aid will focus on trade and investment, infrastructure, fisheries, and tourism. Echoing the Chinese approach, but upping the ante, Japan will use Senior Volunteers to train more than 4,000 people in the Forum Island Countries (MOFA 2006a, 2006b).

Japan, too, is seeking PIC support for diplomatic objectives beyond the region. Japan wants its status as a great power reflected in the UN structure. The Okinawa leaders' declaration endorsed this aim: "Leaders of the PIF reiterated their support on a bilateral basis for Japan's bid for permanent membership of the UN Security Council" (MOFA 2006a). Later in the year Japan lost its tilt for a seat at the UN high table, but the issue is not going away.

Japan also wants support at the International Whaling Commission (IWC) to overturn the 1986 moratorium and approve commercial whaling. In June 2006, for the first time, Japan and its pro-whaling allies gained a majority, 33 to 32, in an IWC resolution to overturn the ban. This resolution is not binding, as it did not gain the three-quarters majority required. The St Kitts and Nevis Declaration issued a not-so-veiled threat that "the IWC can be saved from collapse only by . . . [allowing] controlled and sustainable whaling." It invoked "respect for cultural diversity and traditions of coastal peoples." This statement was disingenuous, as subsistence whaling by indigenous people is already allowed. In another appeal designed to resonate with Islanders, the declaration claimed that "whales consume huge quantities of fish making the issue a matter of food security for coastal nations" (IWC 2006).

Six Pacific states voted for the St Kitts and Nevis Declaration: Kiribati, the Marshall Islands, Nauru, Palau, Tuvalu, and Solomon Islands. These are the same nations that recognize Taiwan. Also, five are Micronesian neighbors that share a history with Japan dating back to the League of Nations–mandated territories and World War Two occupation. Their exclusive economic zones are among the largest and richest in fish stocks. All the Micronesians, bar Nauru, receive the lion's share of their aid from Japan. This determined their votes, as Pacific Islands have no interest in whaling, on a cultural or commercial basis. Conversely, there is scope to promote whale watching as ecotourism. The multimillion-dollar whale-watching industry in Australia and the fledgling one in Tonga are cases in point. Yet growing diplomatic support has emboldened Japan to double their annual take of minke whales to 935 in 2006 and, from 2007, it will take 50 fin whales and 50 humpback whales (Johnson 2005).

Apart from being a major bilateral aid donor, over the past decade Japan has been the fourth largest donor to the Pacific Islands Forum Secretariat, having provided US$5.7 million since 1997. Japan is the only country with which the Forum Chair has a standing arrangement to visit for annual high-level discussions. From 1990 Japanese aid to the region had averaged about

US$100 million annually; however, in recent years that figure had begun to decline due to an overall cut to the Japanese aid budget. The increase in aid announced at the 2006 PALM Summit suggests that levels to the PICs are recovering again. A new consideration in aid allocations is competition with China, which Japan rightly perceives as an emerging superpower vying for influence in the Pacific Islands (MOFA, cited in *PM,* Sept 2005).

Like China, Taiwan held its inaugural summit in 2006. The First Taiwan–Pacific Allies Summit was held in September in Koror, Palau. Not to be outdone by China, Taiwan sent its president, Chen Shui-bian, to meet the six heads of state. To China's consternation, Fiji hedged its bets and sent representatives, but did not sign the communiqué. Taiwan trumped its neighbors by arranging to hold annual summits of leaders (the next will be in Majuro), in contrast to the schedule of meeting every three or four years favored by Tokyo and Beijing, respectively. The Palau Declaration laid emphasis on law enforcement, digital government, tourism, health care, renewable energy, agriculture, and fisheries (OPRC 2006).

Sensitive to past allegations of checkbook diplomacy, Taiwan did not use the summit to broadcast new aid. Nevertheless, Taiwanese aid to the region has been increasing. The Marshall Islands hit the jackpot with a Taiwanese commitment to their new trust fund of US$50 million, to be spread over the next twenty years (*PM,* June 2005). The time lag is strategic, given the propensity of PICs to chop and change between the two Chinas. Apart from Palau, in 2006 President Chen also made state visits to Nauru and, in May 2005, to the Marshall Islands, Tuvalu, and Kiribati. En route in 2005 he made a controversial stop in Fiji, which does not recognize Taiwan but still holds meetings. It is little wonder that Taiwan devotes so much diplomacy to the Pacific when the region accounts for 6 of the 25 countries that recognize Taiwan.

It is interesting to compare the symbolism and rhetoric of the two Chinese summits. Both Asian leaders emphasized commonalities with Pacific microstates. The Chinese premier did so by reference to their experience as developing countries with aspirations for economic growth. Wen Jiabao also vowed that China would be a "reliable friend . . . forever" (Wen 2006). The Taiwanese president focused on shared ideology, implicitly denigrating the one-party Communist state with its questionable record on human rights. The Palau summit opened with a priest's blessing, illustrating an important difference with China. The Palau Declaration made reference to "mutual democratic ideals" and to "democratic alliances" (OPRC 2006). The touching allusions to common values, solidarity, and friendship at all three summits are in contrast to the Northeast Asian trio's policies on issues of paramount significance to the Pacific Islands, that is, climate change and fisheries. Their actions in these areas, crucial to the region's sustainable development, count for more than words.

Japan and China both have a mixed record on climate change, albeit in different ways. Japan has ratified the Kyoto Protocol but used the US withdrawal as leverage to renegoti-

ate lower national targets and, in so doing, weakened the regime in spirit and substance. China, too, has ratified the protocol and met its legal obligations, but these do not extend to cutting emissions. In absolute terms, as a GHG emitter China has ranked second since 1995 and is set to surpass the United States by 2010. China's pollution is a major contributor to the semipermanent brown haze that covers Asia. Following the US lead, China has committed to reducing the energy intensity of its economic growth, but not to cut overall emissions. Even though the emissions of developing countries will exceed those of the developed world by about 2012, China led 131 developing states at the 2006 UN meeting in Nairobi in rejecting any targets for them, voluntary or otherwise (Christoff 2007).

China will not commit to GHG reductions unless the developed world significantly increases transfers of clean-energy technology. Instead of working toward this within the protocol, China and Japan have joined the Asia-Pacific Partnership on Clean Development and Climate (AP6). They have thus lent legitimacy to an initiative by the two Kyoto renegades, the United States and Australia, which duplicates the UN Clean Development Mechanism without setting reduction targets. Four key actors engaged with the Pacific Islands, where the threat of sea-level rise and extreme weather events is all too real and immediate, are dominating the AP6 group, whose effect is to undermine the sole, global binding agreement to stabilize, and ultimately cut, GHG emissions. The big emitters must return to the main game of Kyoto, agree to higher reductions by developed countries, set realistic targets for developing countries, and support massive investment in clean technology development and transfer to facilitate both sets of emissions targets.

The record of Northeast Asia on fisheries has not been cause for celebration either. On the one hand, Japan, China, and Taiwan have brought revenue to Pacific Island governments in access fees and also aid, often tied to fisheries access and spent on the fisheries sector. Yet these gains are being negated by the damage wrought by overfishing. Northeast Asian nations are not the only ones preying on Pacific Island fishing grounds. The European Union and the United States are big fishing entities too, though their access deals are more transparent. Like Europe, East Asian nations have exhausted their coastal fisheries and migrated elsewhere, including to the Western and Central Pacific. There has been an unsustainable increase in East Asian capacity, effort, and share of catch, including by states not focused on here, such as Thailand and Korea. East Asia now dominates the global fish-processing and export industry and is thus central to any efforts to regulate fisheries.

China alone claims to have landed 17 million metric tonnes of fish per annum since 1998, equivalent to nearly 20 percent of fish landed worldwide. China acknowledged this was excessive and instituted a zero growth policy from the late 1990s. While this is encouraging, for world fisheries to be sustainable, actual cuts are required by all nations. This applies to China too, which in 2002 became the largest fish exporter at 9 percent of world share. With 3 percent of market value, Taiwan also ranks among the top ten

exporters. China, like most developing countries, is mainly participating in the industry to export the fish (particularly valuable species like tuna) to developed countries. The European Union accounts for 39 percent of imports of the global fish catch, Japan 19 percent, the United States 16 percent, while the rest of the world gets 26 percent—and the poor majority world imports only 12 percent of total catch by value (GI 2007, 14–19). Japan outstrips all other countries in consumption, including a whopping 30 percent of the world's fresh and frozen tuna.

Beyond official catch data, themselves unreliable, East Asian vessels are prominent in illegal fishing. Greenpeace reports that "there is a general perception in the Pacific that distant water fishing boats from Asia are less compliant than other fishing nations. Based on arrests in the last five years, the majority of fishing vessels caught fishing illegally in the region are from China, Taiwan, Indonesia and Korea. . . . [they] continue to oppose the stringent monitoring, control and surveillance measures required to effectively halt illegal fishing" (GAP 2004, 7). If these states are really determined to demonstrate sovereignty, they could start by exercising control over their national fishing vessels in accordance with international law. The Asian aid donors could also contribute to an expensive item in fisheries management: surveillance. For example, Australia has funded Pacific patrol boats, while France, Australia, and New Zealand (through the FRANZ agreement) do overflights of regional exclusive economic zones.

On Japan's part, there have been large discrepancies between its reported catch and the amount sold in its domestic market. In 2006 it emerged that Japan had been covertly overfishing southern bluefin tuna for twenty years, to the tune of 100,000 tonnes (worth US$6 billion) over its quota (ABC 2006). Japan has also been resistant to the institution of binding conservation measures in RFMOs, especially clear-cut quotas and reductions in catch. In deference to global concerns, Taiwan and Japan have committed to voluntary reductions of 20 percent of vessels in their vast longline fleets, the two largest in existence. This may reduce pressure on bigeye and yellowfin in the Pacific, which are caught primarily by this gear type. In Taiwan's case, longline fleet reductions may be canceled out by the size of thirty-three new "super purse seiners" plying the Pacific (*PM,* Jan 2006). Taiwan also builds industrial fishing vessels for clients elsewhere. Vietnam is a worry too, as in 2005 it announced its intention to build, with French help, four hundred new deep-sea fishing vessels (GI 2007, 11).

All three Northeast Asian countries are notorious for offering aid to the PICs, and other cash-poor nations, to obtain fisheries access deals. Japan has forty "sweetheart deals" worldwide, "camouflaged under its official development assistance and technical cooperation programs," and many are in the Pacific (GI 2007, 59). Private Asian investment also facilitates access rights. In 2004, a Taiwanese company invested US$20 million in a tuna-processing plant in Papua New Guinea. Parties to the Nauru Agreement explicitly give preferential access to nations that invest in their economies. Taiwan thus gained access to the Marshall Islands exclusive economic

zone for six purse seiners as a result of a private investment of US$600,000 in the microstate's national bank. Taiwan also sought to install a US$20 million floating drydock in the Marshall Islands but it was later rejected on environmental grounds (*PM,* Jan 2006).

A high-ranking Japanese official admitted that access to fish was the prime and abiding motivation for relations with the Pacific Islands, especially in Micronesia (*PM,* Sept 2005). This reflects the outlook of other Asian fishing nations. In all three aid packages announced at the 2006 Asian summits, fisheries was prominent. It would be naïve to view large-scale aid and investment as simply a bonus beyond the negotiated fees. Increasing dependence on "gifts" raises expectations by donors that PICs will fall in line on a range of issues. PICs are under considerable pressure to grant licenses in excess of the fish stocks' carrying capacity. Compounding the scope for mismanagement and corruption is the fact that the process of granting licenses has been far from transparent. There is also a precedent with Japan's expectation that PICs receiving its aid should—and indeed now do—support its proposals in the International Whaling Commission. There is a danger that the quid pro quo will be called in for vital WCPFC decisions on fisheries management, notably on the vexed issue of national quotas and reduction of catch.

The attitude of East Asian nations to international law in this domain does not bode well. Significantly, China, as well as Indonesia, Korea, Malaysia, Philippines, Thailand, and Vietnam, have not ratified the key global treaty: the 1995 UN Fish Stocks Agreement. Japan did so in 2006. However, in addition to bilateral access deals with the PICs, China and Japan have ratified the Western and Central Pacific Fisheries Convention, and Taiwan has an equivalent arrangement. This means PICs do have leverage over the three Asian fishing nations. Fishing rights could be explicitly linked to the Asian states engaging in conservation measures, exercising control over vessels, and supporting sustainable quotas, both in exclusive economic zones and on the high seas. PICs must resist the temptation to grant preferential deals to aid donors. Inequitable allocations are virtually guaranteed to result in obstructive behavior in the Regional Fisheries Management Organization and flouting of conservation measures, including quotas.

Pacific diplomacy with Asia does not occur in a vacuum. Reducing dependence on traditional donors is a major consideration. Australia, New Zealand, and the United States have imposed strict conditions on aid to promote "good governance." Funding has shifted to targeted and tightly audited projects. PICs have courted new donors from Asia in part because they impose less onerous conditions. Indeed, for countries under audit by the United States or Australia, grant aid from Asia is often the only source for discretionary expenditure. Moreover, in keeping with their customs and strategic interests, Asian states refrain from comment on the internal affairs of other states. Consequently, at times when Australia and New Zealand have attempted to use aid or sanctions to promote accountability,

rule of law, human rights, or a return to democracy, recalcitrant Pacific leaders have turned to Asian donors. In 2006, awareness of the Asia card was evident in the rhetoric of Sogavare, Somare, and Bainimarama as they railed against criticism from Australia. Political ramifications aside, Asian states are not likely to be greater advocates of environmental sustainability than traditional donors.

To conclude, there are remarkable similarities in the causes of climate change and overfishing and, hence, in potential solutions. These crises are the result of population growth, industrialization, and rising per capita consumption, coupled with the relegation of environmental management to market forces. The tragedy of the commons is that no value has been attributed to the environment. As a consequence, trends in carbon emissions and fish exploitation are unsustainable. Developed countries built their wealth exploiting fossil fuels, forests, and fisheries. Per capita, the rich countries still consume far more energy and fish than the poor majority world. It is a common refrain that the former must take responsibility for these unsustainable practices. Yet, led by East Asia, developing countries are following the same path. Nor are PICs innocent bystanders. They are merely the last in line to cash in on exploitation of natural resources. They too risk mortgaging their children's futures for short-lived gains in growth and consumption.

The consequences of not taking corrective action on climate change and fisheries will hit the PICs earliest and hardest. Ultimately, inaction will be extremely costly to the development and security of all states and irrevocably damage marine and terrestrial environments. The solutions involve significant cuts to GHG emissions and to the global fish catch, not just stabilization at existing levels, which are patently unsustainable. To ensure that cuts happen, there is a need for legally binding targets in a clear time frame, and compliance must be independently monitored. Vague voluntary goals and self-restraint by states have not worked in the past and there is no reason to expect otherwise in the future. Collective political will is needed to translate existing principles in international law, which are sound, into compliance with binding targets.

Both developed and developing countries must engage in reductions to GHG emissions and fish catch for global trends to return to something resembling a sustainable level. Debates about who has benefited more from fossil-fuel-intensive growth and historic fish catches in absolute or per capita terms will not alter the fact that reductions are needed worldwide. To be feasible in poor countries, cuts require a concomitant transfer of resources from the developed countries for cleaner energy and for adaptation to climate change. This kind of assistance is occurring, but more is needed to induce real cuts to GHG emissions quickly.

Achieving restraint on fisheries, like the Kyoto Protocol, will require proportionately larger cuts to the catch of developed countries. These must be mirrored by cuts to their imports and consumption; otherwise developing countries will simply catch more fish to meet demand. To induce compliance, the fishing industry will want

compensation for foregone catch and for retraining people. PICs and other developing coastal states will expect incentives in return for restraint in issuing fishing rights. Nevertheless, all stakeholders will have to contribute. Like risk management of natural hazards, concerted action now on climate change and fisheries will reap socioeconomic benefits for all in the long term. Given the vested interests involved across the board, the way forward behooves regional unity, donor assistance, and also parallel cooperation at the global level.

The Pacific Islands countries are not hapless victims. They are able to implement measures to manage natural hazards, thus preventing disasters or mitigating their costs. Similarly, they can pursue sustainable forestry and energy use while also combating global warming. The PICs can be influential in fisheries by virtue of their role in granting access rights and helping to set the agenda on conservation. If the PICs lobby collectively with like-minded WCPFC countries to reduce catch to sustainable levels, the commission might realize its potential as a model Regional Fisheries Management Organization. PICs could thus challenge the view that developing countries, large or small, are somehow exempt from taking responsibility. It is time that China, as the avowed friend of PICs, ceased taking refuge in its "developing country" status. As the second greatest GHG emitter and single largest fish exporter, this nascent superpower must put its development on a sustainable footing. This could shame the United States into following suit. If these two countries were to throw their weight behind multilateral efforts on climate change and fisheries, prospects for the PICs, and the world, would be much brighter.

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